

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
14 July 2005 (14.07.2005)

PCT

(10) International Publication Number
WO 2005/063509 A1

(51) International Patent Classification⁷: **B60C 11/18**,
11/00

Sarca, 222, I-20126 Milano (IT). LACAGNINA, Claudio
[IT/IT]; c/o Pirelli Pneumatici S.p.A., Viale Sarca, 222,
I-20126 Milano (IT).

(21) International Application Number:
PCT/IT2003/000867

(74) Agents: **BOTTERO**, Claudio et al.; Porta Checcacci &
Associati S.p.A., Via Trebbia, 20, I-20135 Milano (IT).

(22) International Filing Date:
30 December 2003 (30.12.2003)

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,
CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE,
GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR,
KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK,
MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT,
RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR,
TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(25) Filing Language: English

(26) Publication Language: English

(71) Applicant (*for all designated States except US*): **PIRELLI
PNEUMATICI S.p.A.** [IT/IT]; Viale Sarca, 222, I-20126
Milan (IT).

(84) Designated States (*regional*): ARIPO patent (GH, GM,
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,
SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM,
GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

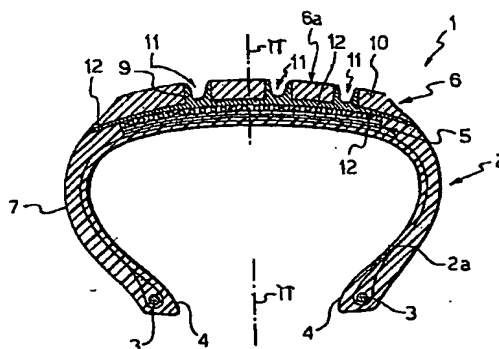
(72) Inventors; and

(75) Inventors/Applicants (*for US only*): **LOSI**, Piero [IT/IT];
c/o Pirelli Pneumatici S.p.A., Viale Sarca 222, I-20126 Mi-
lano (IT). **DE CANCELLIS**, Pierluigi [IT/IT]; c/o Pirelli
Pneumatici S.p.A., Viale Sarca 222, I-20126 Milano (IT).
LO PRESTI, Gaetano [IT/IT]; c/o Pirelli Pneumatici
S.p.A., Viale Sarca, 222, I-20126 Milano (IT). **NOTO**,
Rodolfo [IT/IT]; c/o Pirelli Pneumatici S.p.A., Viale

Published:
— with international search report

[Continued on next page]

(54) Title: PNEUMATIC TIRE AND PROCESS FOR ITS MANUFACTURE



(57) Abstract: A pneumatic tire (1) is described comprising a carcass structure (2) having at least one carcass ply (2a), and at least one annular reinforcing structure (3) associated to the carcass ply (2a), a tread band (6) made of an elastomeric material at a radially outer position with respect to the carcass structure (2), a belt structure (5) interposed between the carcass structure (2) and the tread band (6) and a pair of axially opposite side walls (7, 8) on said carcass structure (2), wherein the tread band (6) comprises: i) at least one first sector (9), radially extending, substantially consisting of a first elastomeric material; ii) a plurality of second sectors (10), radially extending, positioned at axially opposite sides of said at least one first sector (9) and substantially consisting of a second elastomeric material; iii) at least one longitudinal groove (11) formed in said at least one first sector (9) and extending substantially for the entire circumferential development of the tread band (6); wherein the first elastomeric material has a modulus of elasticity (E') under compression at 23°C greater than the modulus of elasticity (E') under compression at 23°C of the second elastomeric material, and wherein the modulus of elasticity (E') under compression at 23°C of the first elastomeric material is comprised between about 20 and about 80 MPa.

WO 2005/063509 A1